Dell™ XPS™ 625 Service Manual

Model DCDR01

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

November 2008 Rev. A00

[Back to Contents Page](#)

Before You Begin

Dell™ XPS™ 625 Service Manual

This chapter provides procedures for removing and installing the components in your computer. Unless otherwise noted, each procedure assumes that the following conditions exist:

- You have performed the steps in Turning Off Your Computer and Safety Instructions.
- You have read the safety information that ships with your computer.
- A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

Technical Specifications

For information on technical specifications of your computer, see the *Setup Guide* that shipped with your computer or see the Dell Support website at **support.dell.com**.

Recommended Tools

The procedures in this document may require the following tools:

- Small Phillips screwdriver
- Small flat-blade screwdriver

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system.
2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 4 seconds to turn them off.

Safety Instructions

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your own personal safety.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

CAUTION: To avoid damaging the computer, perform the following steps before you begin working inside the computer.

1. Ensure that the work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

3. Disconnect all telephone or network cables from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets.
5. Press and hold the power button while the system is unplugged to ground the system board.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

Back to Contents Page

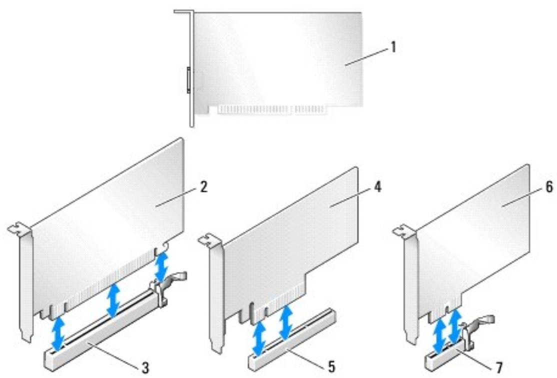
Back to Contents Page

Replacing PCI/PCI Express Cards

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

NOTE: If a graphics card is installed in each of the PCI Express x16 card slots in the dual-graphics configuration, the PCI Express x1 and one PCI card slot are not accessible for use.



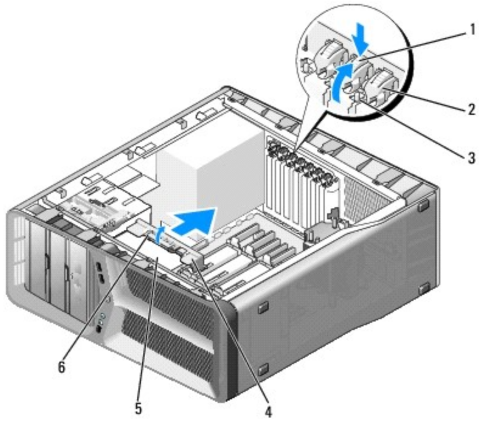
1	PCI card	2	PCI Express x16 card
3	PCI Express x16 card slot	4	PCI Express x8 card
5	PCI Express x8 card slot	6	PCI Express x1 card
7	PCI Express x1 card slot		

Removing PCI and PCI Express Cards

NOTE: If you have the optional dual-graphics card configuration, see Removing a PCI Express Graphics Card From a Dual Configuration to remove or replace a graphics card.

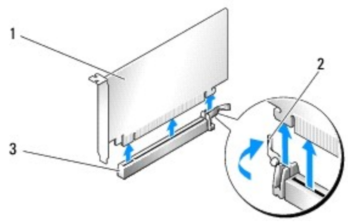
1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Disconnect any cables connected to the card.
4. Press down the release tab on the top of the card retainer at the appropriate card slot and pivot the card retainer back through the chassis wall.
5. Remove the screw that secures the card to the chassis.

   NOTE: If the card is full-length, pull back on the alignment guide release tab to release the alignment guide from the fan cage.



1	release tab	2	card retainer
3	screw	4	alignment guide
5	fan cage	6	alignment guide release tab

6. Press the securing tab (if present) on the system board connector as you grasp the card by its top corners, and then ease the card out of the connector.



1	PCI Express x16 card	2	securing tab
3	PCI Express x16 card slot		

7. Install a filler bracket in the empty card-slot opening. If you are replacing the card, see Installing PCI and PCI Express Cards.

NOTE: Installing filler brackets over empty card-slot openings is necessary to maintain FCC certification of the computer. The brackets also keep dust and dirt out of your computer.

CAUTION: Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

8. Replace the screw that secures the filler bracket to the chassis.

NOTE: If you removed the alignment guide, replace the alignment guide on the card fan cage; push the alignment guide until it clicks into place.

9. Push the card retainer back into its original position; push its tip so that its tab clicks into place.
10. Replace the computer cover (see Replacing the Computer Cover).
11. Connect your computer and devices to electrical outlets, and then turn them on.
12. To complete the removal procedure, see Configuring Your Computer After Removing or Installing a PCI/PCI Express Card.

Installing PCI and PCI Express Cards

NOTE: If you have or are upgrading to the optional dual-graphics configuration, see Installing a PCI Express Graphics Card in a Dual Configuration to install a graphics card.

1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

3. Press down the tab on the top of the card retainer at the appropriate card slot and pivot the card retainer back through the chassis wall.

4. Remove the filler bracket or existing card (see Removing PCI and PCI Express Cards) to create a card-slot opening.

5. Prepare the card for installation.

   See the documentation that came with the card for information on configuring the card, making internal connections, or otherwise customizing it for your computer.

   NOTE: If the card is full-length, pull back on the alignment guide release tab to remove the alignment guide from the card fan cage.

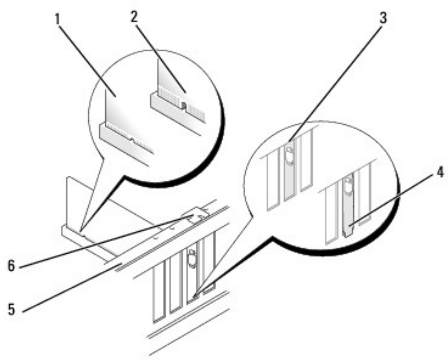
6. Position the card so that it is aligned with the slot and the securing tab (if present).

   NOTE: If the card is full-length, insert the card guide into the alignment slot on the card fan cage.

CAUTION: Ensure that you release the securing tab to seat the card. If the card is not installed correctly, you may damage the system board.

7. Gently pull the securing tab (if present) and place the card in the connector. Press down firmly and ensure that the card is fully seated in the slot.

   NOTE: If you removed the alignment guide, replace the alignment guide on the card fan cage; push the alignment guide until it clicks into place.



1	fully seated card	2	not fully-seated card
3	filler bracket properly aligned within the slot	4	filler bracket improperly aligned outside the slot
5	alignment bar	6	alignment guide

CAUTION: Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

CAUTION: An incorrectly attached graphics power cable may result in degraded graphics performance.

8. Connect any cables that should be attached to the card.

   See the documentation that came with the card for information about the card's cable connections.

9. Replace the screw to secure the card to the chassis.

CAUTION: Before pushing the card retainer back into place, ensure that the tops of all cards and filler brackets are flush with the alignment bar and the notch in the top of each card or filler bracket fits around the alignment guide.

10. Rotate the card retainer back into its original position; push its tip so that its tab clicks into place.

11. Replace the computer cover (see Replacing the Computer Cover).

12. Connect your computer and devices to electrical outlets, and then turn them on.

13. To complete the installation, see Configuring Your Computer After Removing or Installing a PCI/PCI Express Card.

Removing a PCI Express Graphics Card From a Dual Configuration

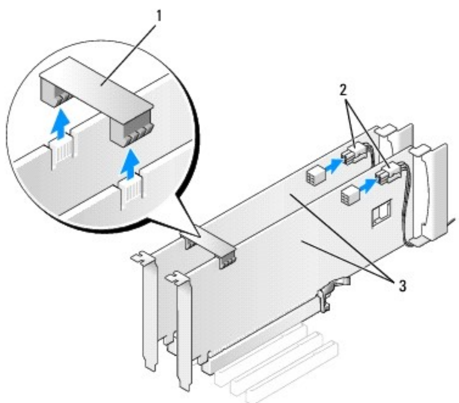
NOTE: Follow the steps described in this section to remove PCI Express x16 graphics cards in dual configuration only. For removal of any other type of PCI or PCI Express cards, see Removing PCI and PCI Express Cards.

1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

3. Gently securing both graphics cards with one hand, remove the graphics card bridge (if present) with your other hand by pulling it up and away from the computer. Set it aside.

   NOTE: The graphics card bridge may not be present in all dual-graphics configurations and is not necessary in a single-graphics card configuration.



1	graphics card bridge	2	power connectors (2)
3	dual-PCI Express graphics cards		

4. Disconnect any cables connected to the card.

5. Remove the PCI Express graphics card (see Removing PCI and PCI Express Cards).

   NOTE: Installing filler brackets over empty card-slot openings is necessary to maintain FCC certification of the computer. The brackets also keep dust and dirt out of your computer.

6. Install a filler bracket in the empty card-slot opening. If you are replacing the card, see Installing a PCI Express Graphics Card in a Dual Configuration.

CAUTION: Before pushing the card retainer back into place, ensure that the tops of all cards and filler brackets are flush with the alignment bar and the notch in the top of each card or filler bracket fits around the alignment guide.

CAUTION: Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

7. Push the card retainer back into its original position; push its tip so that its tab clicks into place.

8. Replace the screw that secures the filler bracket or card to the chassis.

9. Replace the computer cover (see Replacing the Computer Cover).

10. Connect your computer and devices to electrical outlets, and then turn them on.

Installing a PCI Express Graphics Card in a Dual Configuration

NOTE: To upgrade to a dual-graphics configuration, you will need additional parts that can be ordered from Dell (see "Contacting Dell" in your *Setup Guide*).

This section pertains to dual PCI Express graphics card configurations only. For installation of other types of PCI or PCI Express cards, see Installing PCI and PCI Express Cards.

The PCI Express x1 card slot is not available for use if a graphics card is installed in each of the PCI Express x16 card slots in a dual-graphics card configuration. If you are upgrading from a single graphics card to a dual-graphics card configuration, you will need to remove any card installed in the PCI Express x1 card slot (see System Board Components to locate the PCI Express x1 card slot). To remove a PCI Express card, see Removing PCI and PCI Express Cards.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Remove the filler bracket or existing graphics card (see Removing a PCI Express Graphics Card From a Dual Configuration) to create a card-slot opening.

   NOTE: If you are upgrading to a dual-graphics card configuration and have a card installed in the PCI Express x1 card slot, remove the card (see Removing PCI and PCI Express Cards).

4. Install the PCI Express graphics card (see Installing PCI and PCI Express Cards).
5. Prepare the card for installation.

   See the documentation that came with the card for information on configuring the card, making internal connections, or otherwise customizing it for your computer.

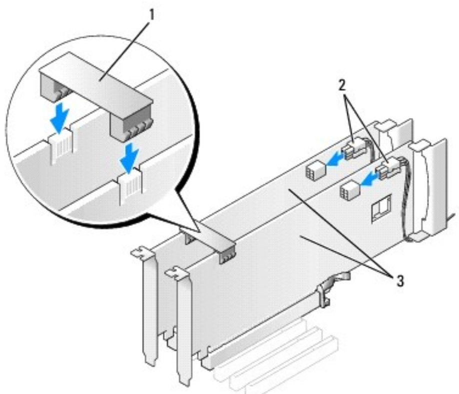
CAUTION: An incorrectly attached graphics power cable may result in degraded graphics performance.

6. Connect any cables that should be attached to the card.

   See the documentation that came with the card for information about the card's cable connections.

CAUTION: Before pushing the card retainer back into place, ensure that the tops of all cards and filler brackets are flush with the alignment bar and the notch in the top of each card or filler bracket fits around the alignment guide.

7. Rotate the card retainer back into its original position; push its tip so that its tab clicks into place.
8. Attach the graphics card bridge (if required for your dual-graphics configuration), pressing firmly so that it completely covers the connector tabs.



1	graphics card bridge (not present on some dual-graphics card configurations)	2	power connectors (2)
3	dual-PCI Express graphics cards		

9. If present, lower the card-retention device that lies over the installed cards and snap it into place.
10. Replace the computer cover (see Replacing the Computer Cover).
11. Connect your computer and devices to electrical outlets, and then turn them on.

Configuring Your Computer After Removing or Installing a PCI/PCI Express Card

NOTE: For information on location of connectors, see the *Setup Guide*. For information on installing drivers and software for your card, see the documentation that shipped with the card.

	Installed	**Removed**
Sound Card	1. Enter system setup (see Entering System Setup) 2. Go to **Integrated Audio Controller** and then change the setting to **Off**. 3. Connect the external audio devices to the sound card's connectors.	1. Enter system setup (see Entering System Setup) 2. Go to **Integrated Audio Controller** and then change the setting to **On**. 3. Connect the external audio devices to the computer's back panel connectors.
Network Card	1. Enter system setup (see Entering System Setup) 2. Go to **Integrated NIC Controller** and then change the setting to **Off**. 3. Connect the network cable to the network card's connector.	1. Enter system setup (see Entering System Setup) 2. Go to **Integrated NIC Controller** and then change the setting to **On**. 3. Connect the network cable to the integrated network connector.

Back to Contents Page

Back to Contents Page

Replacing the Battery

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

WARNING: A new battery can explode if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

1. Record all the screens in system setup (see System Setup) so that you can restore the correct settings after the new battery has been installed.
2. Follow the procedures in Before You Begin.
3. Open the computer cover (see Replacing the Computer Cover).
4. Locate the battery socket (see System Board Components).

CAUTION: If you pry the battery out of its socket with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before you attempt to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking circuit traces on the system board.



5. Remove the battery by prying it out of its socket with your fingers.
6. Insert the new battery (CR2032) into the socket with the side labeled "+" facing up, and press the battery into place.
7. Replace the computer cover (see Replacing the Computer Cover).
8. Connect your computer and devices to electrical outlets, and then turn them on.
9. Enter system setup (see Entering System Setup) and restore the settings you recorded in step 1.

Back to Contents Page

Back to Contents Page

Replacing the Computer Cover

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

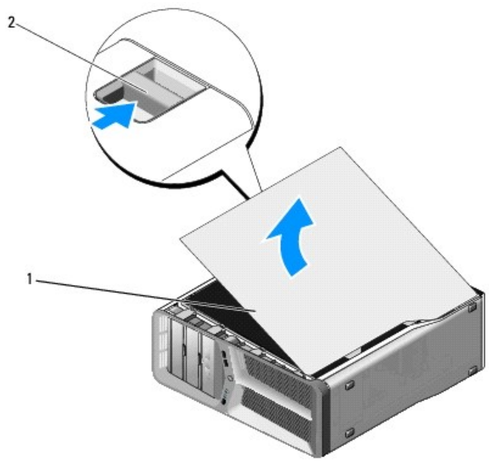
WARNING: Do not operate your equipment with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.

CAUTION: Ensure that sufficient space exists to support the system with the cover removed—at least 30 cm (1 ft.) of desk top space.

1. Follow the procedures in Before You Begin.

2. Lay the computer on a flat surface.

3. Pull back on the cover release latch located at the top-rear of the computer.



1	computer cover	2	cover release latch

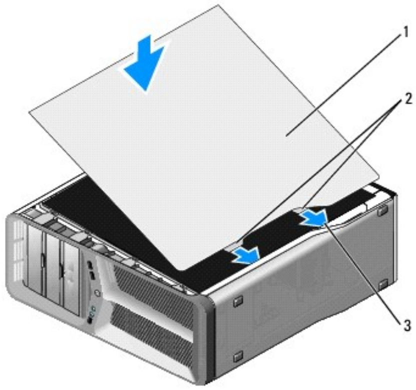
4. With the cover release latch pulled back, grip the sides of the cover, then pivot the top of the cover up and away from the computer and remove it from the hinge slots.

   Set the cover aside in a secure and protected location.

5. To replace the computer cover, align the cover hinges with the hinge slots in the chassis and pivot the cover into position.

6. Press down on the cover until it clicks into place.

   NOTE: The computer cover should easily snap into place; however, if necessary, pull back on the cover release latch until the cover is completely closed, then slide the release latch forward to secure the cover.



1	computer cover	2	cover hinge tabs (2)
3	hinge slots		

7. With the help of an assistant, carefully set the computer upright.

8. Connect your computer and devices to electrical outlets, and turn them on.

Back to Contents Page

Back to Contents Page

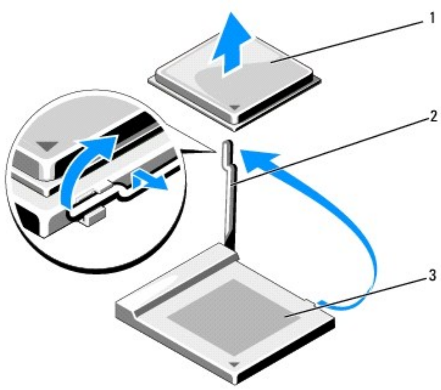
Replacing the Processor

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Do not perform the following steps unless you are familiar with hardware removal and replacement. Performing these steps incorrectly could damage your system board. For technical service, see the *Setup Guide*.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Disconnect the power cables from the POWER1 and 12V_ATXP connectors (see System Board Components) on the system board.
4. Remove the processor heat sink (see Replacing the Processor Heat Sink).
5. Push down and out on the socket release lever and lift it up.

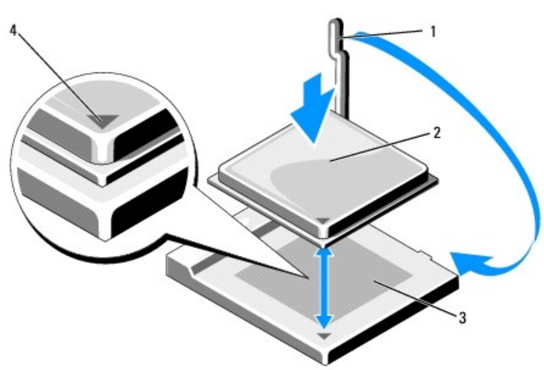


1	processor	2	socket release lever
3	socket		

6. Remove the processor from the socket.

   Leave the release lever extended in the release position so that the socket is ready for the processor to be replaced.

7. To replace the processor, align the pin-1 corner of the processor and socket.



1	release lever	2	processor
3	socket	4	processor pin-1 indicator

CAUTION: Socket pins are delicate. To avoid damage, ensure that the processor is aligned properly with the socket, and do not use excessive force when you install the processor. Be careful not to touch or bend the pins on the system board.

8. Set the processor lightly in the socket and ensure that the processor is aligned in the socket. When the processor is positioned correctly, apply minimal pressure to seat it.

9. Pivot the socket release lever back toward the socket and snap it into place to secure the processor.

10. Replace the processor heat sink (see Replacing the Processor Heat Sink).

11. Reconnect the power cables to the POWER1 and 12V_ATXP connectors (see System Board Components) on the system board.

12. Replace the computer cover (see Replacing the Computer Cover).

13. Connect your computer and devices to electrical outlets, and then turn them on.

Back to Contents Page

Replacing the Processor Heat Sink

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Do not perform the following steps unless you are familiar with hardware removal and replacement. Performing these steps incorrectly could damage your system board. For technical service, see the *Setup Guide*.

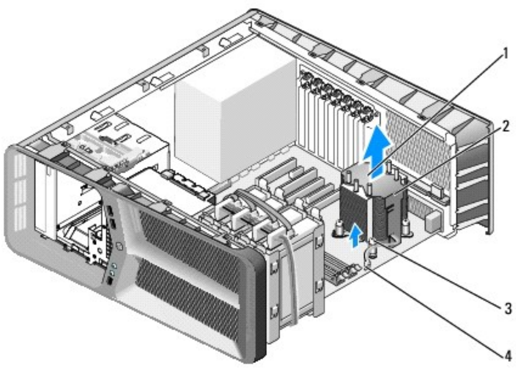
1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

WARNING: The processor heat sink can get very hot during normal operation. Be sure that the heat sink has had sufficient time to cool before you touch it.

3. Disconnect the fan cable from the CPU FAN connector on the system board (see System Board Components).

4. Loosen the four captive screws securing the processor heat sink to the system board.



1	airflow direction and orientation arrows	2	processor heat sink
3	captive screws (4)	4	CPU FAN cable

CAUTION: When you remove the processor heat sink, lay it upside down or on its side to avoid damaging the heat sink thermal interface.

5. Lift the processor heat sink out of the computer, and set it aside.

CAUTION: Incorrect alignment of the processor heat sink can cause damage to the system board and processor.

6. To replace the processor heat sink, align the four captive screws on the processor heat sink with the holes on the system board.

   NOTE: Airflow direction and orientation are shown on top of the heat sink.

7. Tighten the four captive screws.

8. Connect the fan cable to the CPU FAN connector on the system board (see System Board Components).

9. Close the computer cover (see Replacing the Computer Cover).

10. Connect your computer and devices to electrical outlets, and then turn them on.

Replacing Drives

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Replacing a Hard Drive

WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

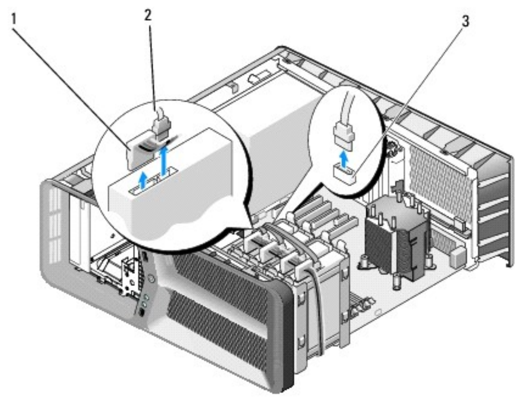
CAUTION: If you are replacing a hard drive that contains data that you want to keep, back up your files before you begin this procedure.

1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

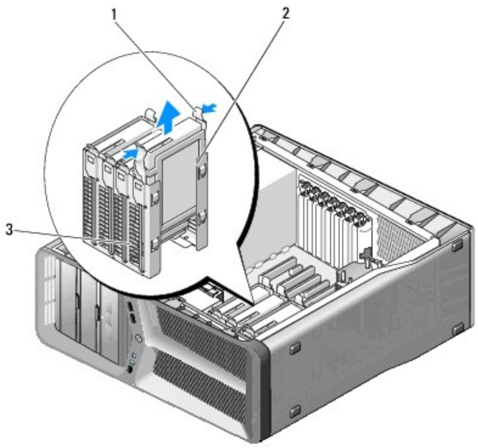
3. Disconnect the power cable and the data cable from the hard drive.

   NOTE: If you are not replacing the hard drive at this time, disconnect the other end of the data cable from the system board and set it aside. You can use the data cable to install a hard drive at a later time.



1	SATA power cable	2	SATA data cable
3	SATA data connector (on the system board)		

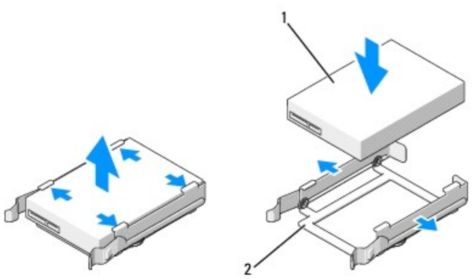
4. Press the black tabs on each side of the hard-drive bracket towards each other and slide the drive up and out of the hard-drive bay.



1	black tabs (2)	2	hard drive
3	hard-drive bay		

5. To replace or install a new hard drive, prepare the new hard drive for installation and check the documentation for the hard drive to verify that the hard drive is configured for your computer.

   NOTE: If the hard drive you are installing does not have a hard-drive bracket attached, use your original hard-drive bracket; snap the bracket onto the new drive.



1	hard drive	2	hard-drive bracket

6. Verify that the hard-drive bay is empty and unobstructed.

7. Slide the hard drive into the hard-drive bay until it clicks securely into place.

CAUTION: Ensure that all the connectors are properly cabled and firmly seated.

8. Connect the power and data cables to the hard drive.

   NOTE: If you disconnected the data cable while removing the hard drive or if you are installing a new hard drive, connect the data cable to the system board.

9. Replace the computer cover (see Replacing the Computer Cover).

10. Connect your computer and devices to electrical outlets, and then turn them on.

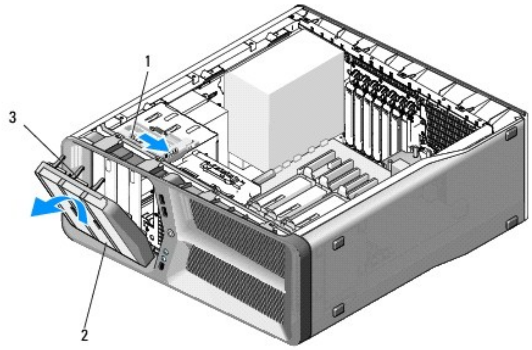
    See the documentation that came with the drive for instructions on installing any software required for drive operation.

Replacing the Drive Panel

1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

3. Grasp the drive-release latch and slide it towards the base of the computer until the drive panel snaps open.

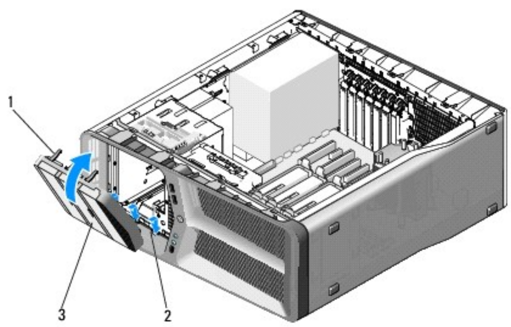


1	drive-release latch	2	drive panel
3	drive-panel tabs (3)		

4. Pivot the drive panel outward and lift it from its side hinges.

5. Set the drive panel aside in a secure location.

6. To replace the drive panel, align the drive-panel tabs with the side-door hinges.



1	drive-panel tabs (3)	2	side-door hinges (3)
3	drive panel		

7. Rotate the drive panel toward the computer until it snaps into place.

8. Replace the computer cover (see Replacing the Computer Cover).

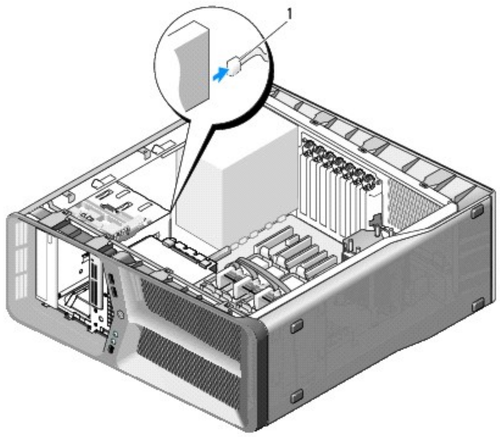
Replacing a Media Card Reader

1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

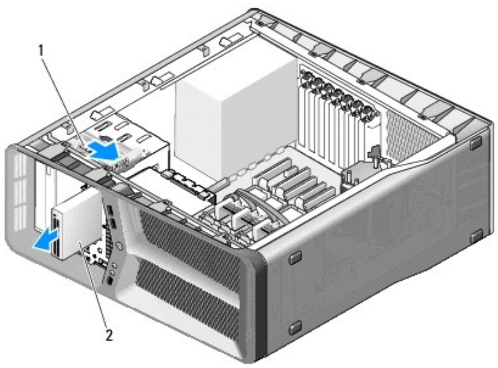
3. Remove the drive panel (see Replacing the Drive Panel).

4. Disconnect the media card reader cable from the back of the media card reader.



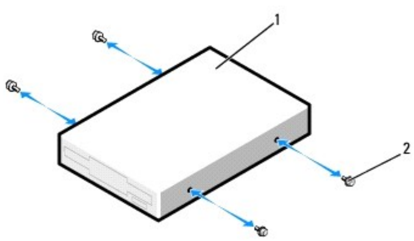
1	media card reader cable

5. Slide the drive-release latch towards the base of the computer to release the shoulder screw, and then slide the media card reader out of the drive bay.



1	drive-release latch	2	media card reader

6. If no screws are attached to the media card reader, check the inside of the drive panel for shoulder screws. If screws are present, attach the screws to the new card reader.



1	media card reader	2	shoulder screws (4)

7. Slide the media card reader into the drive bay until it clicks into place.

8. Attach the media card reader cable to the back of the media card reader.

9. Check all cable connections and fold cables out of the way to avoid blocking airflow between the fan and cooling vents.

10. Replace the drive panel (see Replacing the Drive Panel).

11. Replace the computer cover (see Replacing the Computer Cover).

12. Connect your computer and devices to electrical outlets, and then turn them on.

    See the documentation that came with the drive for instructions on installing any software required for drive operation.

13. Enter system setup (see Entering System Setup) and select the appropriate **USB for FlexBay** option.

Replacing an Optical Drive

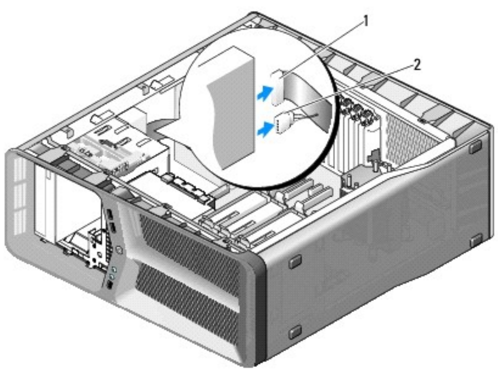
1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

3. Remove the drive panel (see Replacing the Drive Panel).

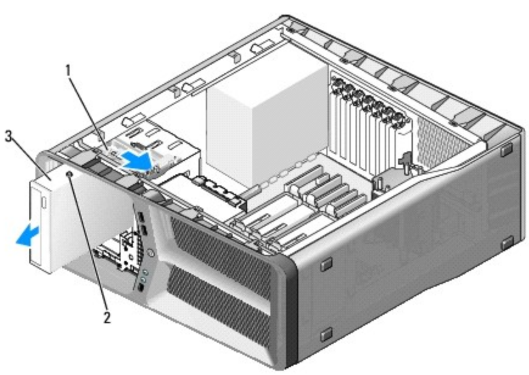
4. Disconnect the power and data cables from the back of the drive.

    NOTE: If you are uninstalling the only optical drive in your computer and will not replace it at this time, disconnect the data cable from the system board and set it aside.



1	data cable	2	power cable

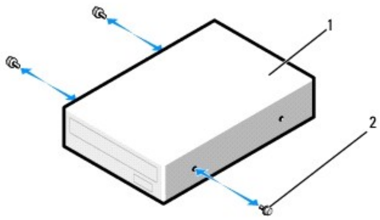
5. Slide the drive-release latch towards the base of the computer to release the shoulder screw, and then slide the optical drive out of the drive bay.



1	drive-release latch	2	shoulder screws (3)
3	optical drive		

6. To replace the optical drive, prepare the optical drive for installation and check the documentation that accompanied the drive to verify that the drive is configured for your computer.

7. If no screws are attached to the drive, check the inside of the drive panel for screws and, if screws are present, attach the screws to the new drive.



1	optical drive	2	shoulder screws (3)

8. Gently slide the drive into the drive bay until it clicks into place.

9. Attach the power and data cables to the optical drive.

   NOTE: If you disconnected the data cable while removing the optical drive or if you are installing a new optical drive, connect the data cable to the system board.

   To locate the system board connector, see System Board Components.

10. Check all cable connections and fold cables out of the way to avoid blocking airflow between the fan and cooling vents.

11. Replace the drive panel (see Replacing the Drive Panel).

12. Replace the computer cover (see Replacing the Computer Cover).

13. Connect your computer and devices to electrical outlets, and then turn them on.

    See the documentation that came with the drive for instructions on installing any software required for drive operation.

14. Enter system setup (see Entering System Setup) and select the appropriate **Drive** option.

Back to Contents Page

[Back to Contents Page](#)

Replacing Fans

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

WARNING: To guard against likelihood of electric shock, laceration by moving fan blades or other unexpected injuries, always unplug your computer from the electrical outlet before removing the cover.

Replacing the Card Fan

1. Follow the procedures in Before You Begin.

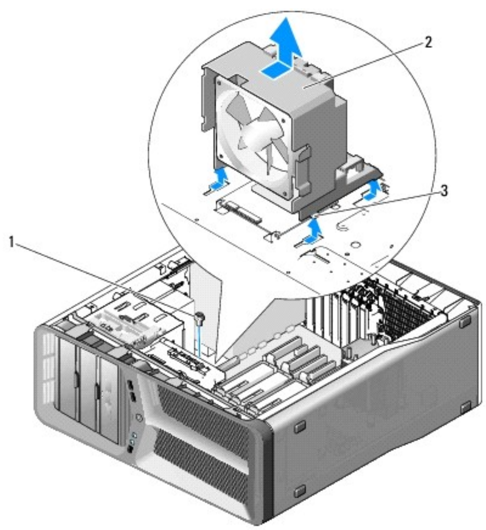
2. Remove the computer cover (see Replacing the Computer Cover).

3. Gather all the cables from the cable holder on the alignment guide and remove any full-length expansion cards (see Removing PCI and PCI Express Cards).

CAUTION: Note the location of each connector before disconnecting the cables.

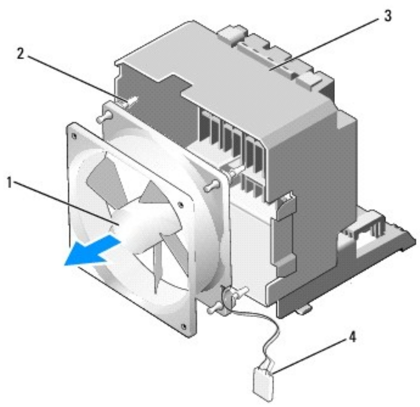
4. Disconnect all the cables from the master I/O Board (see Master I/O Board Components).

5. Remove the screw that secures the card fan cage to the chassis and then slide the card fan cage back and out of the chassis.



1	screw	2	card fan cage
3	tabs (4)		

6. In succession, carefully pull on each corner of the card fan to detach the rubber grommets securing the card fan to the card fan cage.



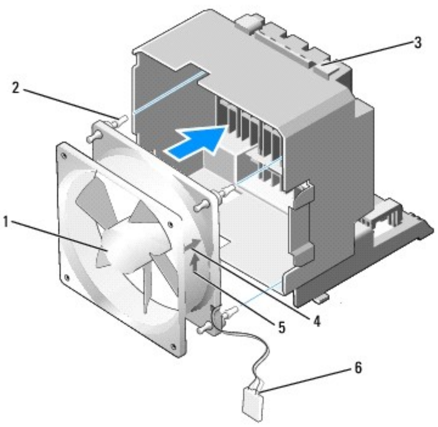
1	card fan	2	rubber grommets (4)
3	card fan cage	4	card fan power cable

7. Set the card fan aside in a secure location.

CAUTION: Ensure that the fan power cable is correctly routed through the opening in the lower-right corner of the fan cage.

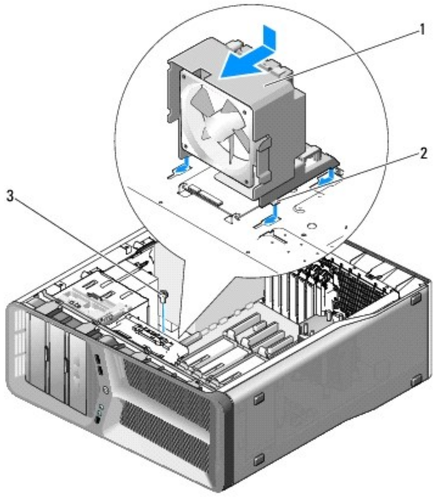
8. To replace the card fan, orient the card fan power cable downward. Align the rubber grommets in the fan with the openings in each corner of the card fan cage, then pull the grommets through until they snap into place.

   NOTE: Airflow direction and orientation are shown on the side of the fan.



1	card fan	2	rubber grommets (4)
3	card fan cage	4	card-fan orientation direction arrow
5	air-flow direction arrow	6	card fan power cable

9. Insert the four tabs along the bottom of the card fan cage into the corresponding slots on the chassis, then slide the card fan cage forward until it snaps into place.



1	card fan cage	2	tabs (4)
3	screw		

10. Replace the screw that secures the card fan cage to the chassis.

11. Connect the cables to the master I/O board (see Master I/O Board Components).

12. Replace any full-length expansion cards that you removed (see Installing PCI and PCI Express Cards).

13. Replace the computer cover (see Replacing the Computer Cover).

14. Connect your computer and devices to electrical outlets, and then turn them on.

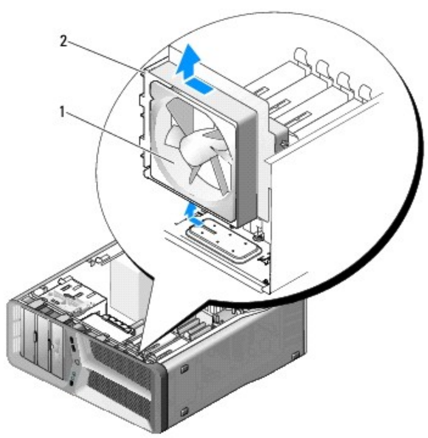
Replacing the Hard Drive Fan

1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

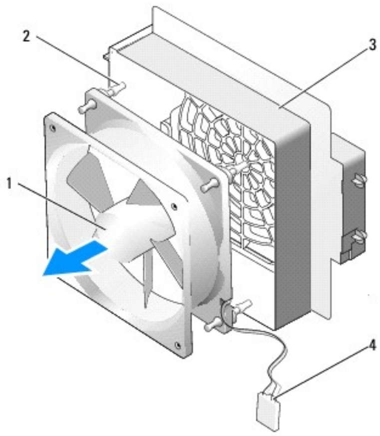
3. Remove the card fan cage (see Replacing the Card Fan).

4. Slide the hard drive fan cage out from behind the hard drive bays, then lift it from the computer.



1	hard-drive fan	2	hard-drive fan cage

5. In succession, carefully pull on each corner of the hard drive fan to detach the rubber grommets securing the hard drive fan to the hard drive fan cage.

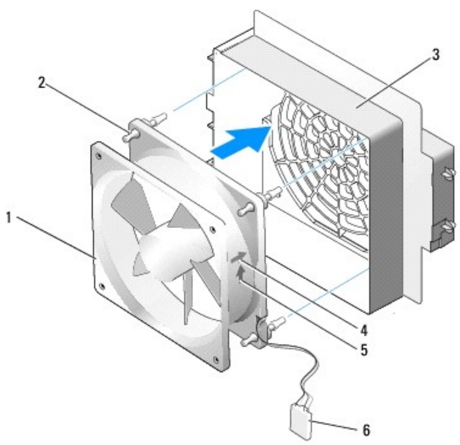


1	hard-drive fan	2	rubber grommets (4)
3	hard-drive fan cage	4	hard-drive fan cable

6. Set the hard drive fan aside in a secure location.

7. To replace the hard drive fan, orient the hard drive fan cable downward. Align the rubber grommets in the fan with the openings in each corner of the fan cage, then pull the grommets through until they snap into place.

   NOTE: Airflow direction and orientation are shown on the side of the fan.



1	hard-drive fan	2	rubber grommets (4)
3	hard-drive fan cage	4	hard-drive fan orientation direction arrow
5	air-flow direction arrow	6	hard-drive fan cable

8. Insert the tab along the bottom of the hard drive fan cage into the corresponding slot on the chassis, then slide the hard drive fan cage behind the hard drive bays until it snaps into place.

9. Replace the card fan cage (see Replacing the Card Fan).

10. Replace the computer cover (see Replacing the Computer Cover).

11. Connect your computer and devices to electrical outlets, and then turn them on.

Back to Contents Page

Back to Contents Page

Replacing the Front I/O Panel

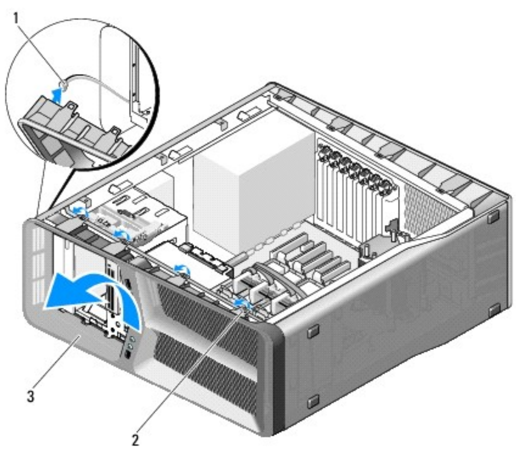
Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Remove any full-length expansion cards (see Removing PCI and PCI Express Cards).

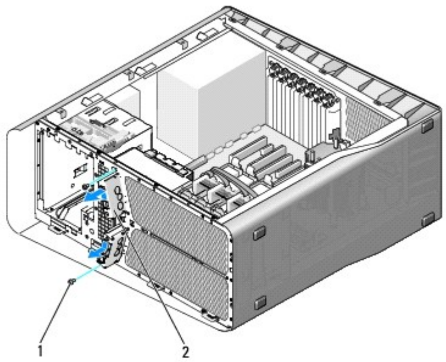
CAUTION: Carefully note the routing of each cable before you disconnect it, so that you are sure to re-route cables correctly. An incorrectly routed or a disconnected cable could lead to computer problems.

4. Disconnect the cables from the master I/O board.
5. Remove the card fan cage (see Replacing the Card Fan)
6. Disconnect the cables from the front I/O panel.
7. Remove the drive panel (see Replacing the Drive Panel).
8. Remove the front panel:
   a. Release the four tabs that secure the front panel to the chassis.
   b. Carefully, pivot the front panel away from the computer to release it from the chassis.
   c. Disconnect the FRONT_LED cable from the front panel to remove the front panel.



1	FRONT_LED cable	2	tabs (4)
3	front panel		

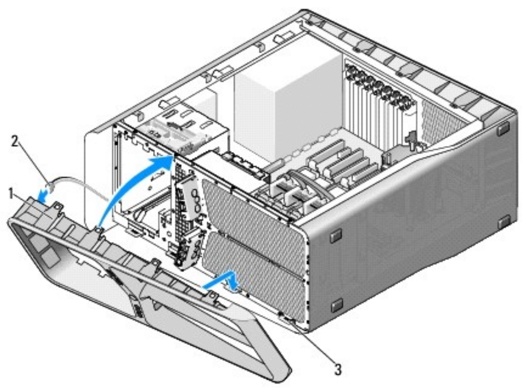
9. Remove the two screws that secure the front I/O panel to the chassis, then slide the front I/O panel towards the chassis frame to remove it completely.



1	screws (2)	2	front I/O panel

10. To replace the front I/O panel, align the screw holes on the front I/O panel with the screw holes on the chassis, and replace the two screws.

11. Align the securing tabs on the front panel with the corresponding slots on the chassis and connect the FRONT_LED cable to the front panel.



1	front panel	2	FRONT_LED cable
3	securing tabs (4)		

12. Rotate the front panel towards the computer until it snaps into place.

13. Replace the drive panel (see Replacing the Drive Panel)

14. Connect the cables to the front I/O panel.

15. Replace the card fan cage (see Replacing the Card Fan).

CAUTION: Ensure that you replace all the cables originally connected to the master I/O board or your computer may not function properly.

16. Connect all the cables to the master I/O board (see Master I/O Board Components).

17. Replace any expansion cards that you removed (see Installing PCI and PCI Express Cards).

18. Replace the computer cover (see Replacing the Computer Cover).

19. Connect your computer and devices to electrical outlets, and then turn them on.

Back to Contents Page

Back to Contents Page

Replacing Lights

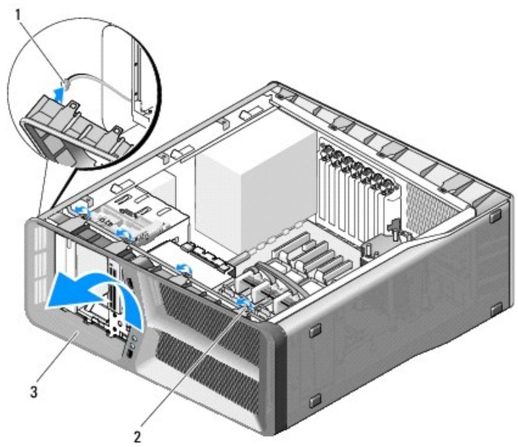
Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Replacing the Front LED Board

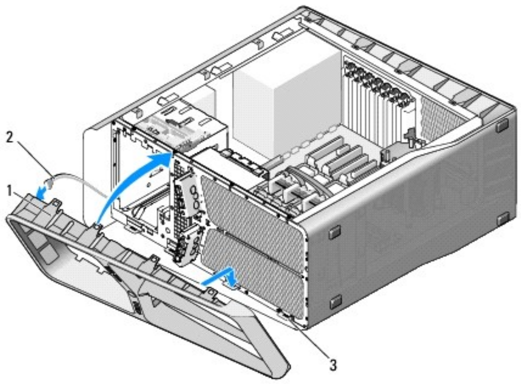
NOTE: The front LED board is embedded on the front panel. To replace the front LED board, you must replace the front panel.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Remove the drive panel (see Replacing the Drive Panel).
4. Release the four tabs that secure the front panel to the chassis.
5. Carefully, pivot the front panel away from the computer to release it from the chassis.



1	FRONT_LED cable	2	tabs (4)
3	front panel		

6. Disconnect the FRONT_LED cable from the front panel to remove the front panel along with the front panel light board.
7. To replace the front LED board, align the securing tabs on the front panel with the corresponding slots on the chassis; connect the FRONT_LED cable to the front panel.



1	front panel	2	FRONT_LED cable
3	securing tabs (4)		

8. Rotate the front panel towards the computer until it snaps into place.

9. Replace the drive panel (see Replacing the Drive Panel).

10. Replace the computer cover (see Replacing the Computer Cover).

11. Connect your computer and devices to electrical outlets, and then turn them on.

Replacing the Rear LED Board

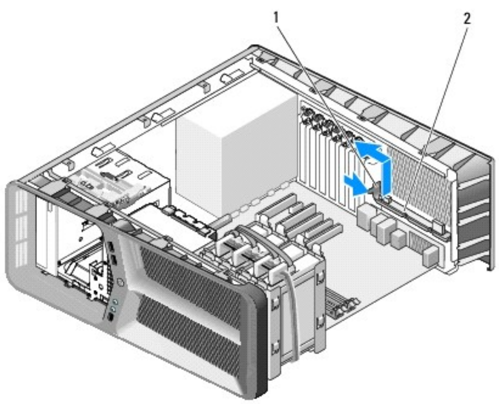
1. Follow the procedures in Before You Begin.

2. Remove the computer cover (see Replacing the Computer Cover).

3. Remove the system board (see Replacing the System Board).

4. Disconnect the REAR_LED_SENSOR cable from the master I/O board (see Master I/O Board Components).

5. Gently push the release tab away from the chassis to release the rear LED board and then slide it up and away from the computer.



1	release tab	2	rear LED board

6. To replace the rear LED board, connect the REAR_LED_SENSOR cable to the master I/O board (see Master I/O Board Components).

7. Route the REAR_LED_SENSOR cable under the system board and replace the system board (see Replacing the System Board).
8. Align the rear LED board with the metal tab on the chassis; then slide the rear LED board into place.
9. Replace the system board (see Replacing the System Board).
10. Replace the computer cover (see Replacing the Computer Cover).
11. Connect your computer and devices to electrical outlets, and then turn them on.

Back to Contents Page

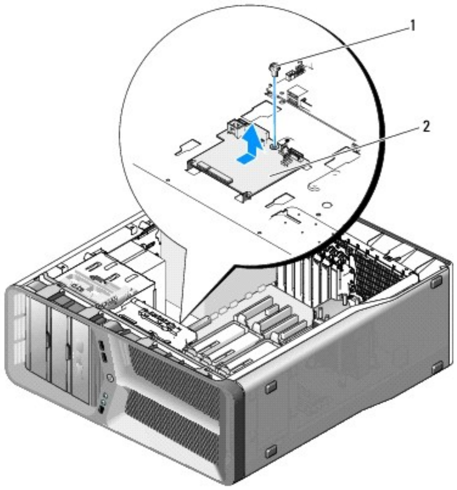
Back to Contents Page

Replacing the Master I/O Board

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Remove the card fan cage (see Replacing the Card Fan).
4. Remove the screw that secures the master I/O board to the chassis.
5. Lift the master I/O board out of the computer.



1	screw	2	master I/O board

6. To replace the master I/O board, orient the master I/O board on the metal tray.
7. Replace the screw to secure the master I/O board to the metal tray.
8. Reconnect all cables to the master I/O board (see Master I/O Board Components).
9. Replace the card fan cage (see Replacing the Card Fan).
10. Replace the computer cover (see Replacing the Computer Cover).
11. Connect your computer and devices to electrical outlets, and turn them on.

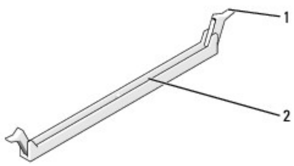
Back to Contents Page

Replacing Memory Module(s)

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).
3. Locate the memory modules on the system board (see System Board Components).
4. Press out the securing clip at each end of the memory module connector.



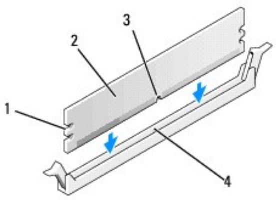
1	securing clip	2	memory module connector

5. Grasp the memory module and pull it upwards.

   If the memory module is difficult to remove, gently ease the memory module back and forth to remove it from the connector.

CAUTION: Do not install ECC memory modules.

6. To install memory module(s), align the notch on the bottom of the module with the tab in the connector.

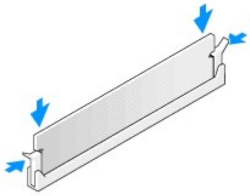


1	cutouts (2)	2	memory module
3	notch	4	tab

CAUTION: To avoid damage to the memory module, press the module straight down into the connector while you apply equal force to each end of the module.

7. Insert the module into the connector until the module snaps into position.

   If you insert the module correctly, the securing clips snap into the cutouts at each end of the module.



8. Replace the computer cover (see Replacing the Computer Cover).

9. Connect your computer and devices to electrical outlets, and then turn them on.

   If the message appears stating that memory size has changed, press <F1> to continue.

10. Log on to your computer.

11. Right-click the **My Computer** icon on your Microsoft® Windows® desktop and click **Properties**.

12. Click the **General** tab.

13. To verify that the memory is installed correctly, check the amount of memory (RAM) listed.

Back to Contents Page

Back to Contents Page

Replacing the Power Supply

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage on www.dell.com at the following location: www.dell.com/regulatory_compliance.

WARNING: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

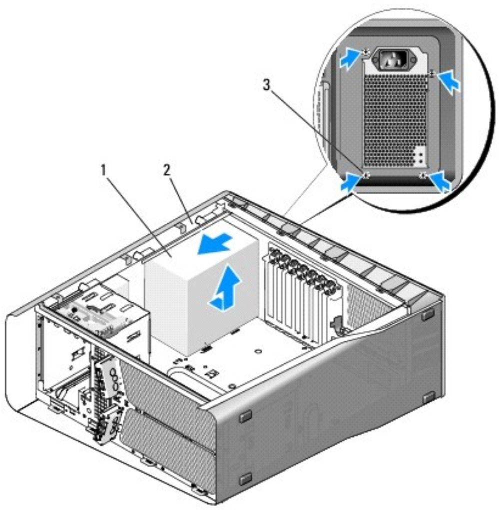
1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).

CAUTION: Note the location and ID of each power connector before disconnecting the power supply cables.

3. Follow the DC power cables that stem from the power supply and disconnect each connected power cable.

   NOTE: Note the routing of the power cable bundles as you disconnect them. You must route these cables properly when you replace them to prevent them from being pinched or crimped.

4. Remove the system board (see Replacing the System Board).
5. Remove the four screws that secure the power supply to the back of the chassis.
6. Slide the cable clamp towards the front of the computer to free it from the securing tabs on the computer chassis, then lift the cable clamp up and away from the computer.



1	power supply	2	protruding lip of the chassis
3	screws (4)		

7. Gather the power supply cable bundles that stem from the power supply, for easy removal.
8. Slide the power supply towards the front of the computer, to free it from the securing tabs on the computer chassis.
9. Slide the power supply towards the expansion cards, to clear the protruding lip of the chassis.
10. Lift the power supply up and out of the computer.
11. To replace the power supply, slide the power supply into place, ensuring that the tabs on the rear wall of the computer chassis latch into place.
12. Replace the four screws that secure the power supply to the back of the computer chassis.
13. Replace the system board (see Replacing the System Board).

14. Reattach each of the DC power cables that were previously connected, carefully rerouting them as you found them.

15. Replace the computer cover (see Replacing the Computer Cover).

16. Connect your computer and devices to electrical outlets, and then turn them on.

Back to Contents Page

[Back to Contents Page](#)

System Setup

Dell™ XPS™ 625 Service Manual

Overview

Use System Setup:

- To change the system configuration information after you add, change, or remove any hardware in your computer.
- To set or change a user-selectable option such as the user password.
- To read the current amount of memory or set the type of hard drive installed.

Before you use System Setup, it is recommended that you write down the system setup screen information for future reference.

CAUTION: Do not change the settings in system setup unless you are an expert computer user. Certain changes can cause your computer to work incorrectly.

Entering System Setup

1. Turn on (or restart) your computer.

2. When the DELL logo appears, press <F2> immediately.

   NOTE: Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F2> in even intervals until the system setup screen appears.

   If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop, then shut down your computer and try again.

System Setup Screens

The System Setup screen displays current or changeable configuration information for your computer. Information on the screen is divided into five areas: the menu field, the options list, the active options field, the help field, and key functions.

Menu — Appears on top of the System Setup window. This field provides a menu to access to the System Setup options. Press the left- and right-arrow keys to navigate. As a **Menu** option is highlighted, the **Options List** lists the options that define the hardware installed on you computer.		
Options List — Appears on the left side of the System Setup window. The field lists features that define the configuration of your computer, including installed hardware, power conservation, and security features. Scroll up and down the list with the up- and down-arrow keys. As an option is highlighted, the **Options Field** displays the option's current and available settings.	**Options Field** — Appears on the right side of **Options List** and contains information about each option listed in the **Options List**. In this field you can view information about your computer and make changes to your current settings. Press <Enter> to make changes to your current settings. Press <ESC> to return to the **Options List**. **NOTE:** Not all settings listed in the Options Field are changeable.	**Help** — Appears on the right side of the System Setup window and contains help information about the option selected in **Options List**.
Key Functions — Appears below the **Options Field** and lists keys and their functions within the active system setup field.		

System Setup Options

NOTE: Depending on your computer and installed devices, the items listed in this section may not appear, or may not appear exactly as listed.

Main	

System Date	Displays the system date.
System Time	Displays the system time.
System Info	Displays the system model name.
BIOS Info	Display the BIOS revision.
Service Tag	Displays the system service tag.
Asset Tag	Displays the asset tag.
Memory Installed	Displays the total memory size.
Memory Technology	Displays the type of memory used in the system.
Processor Type	Displays the type of processor.
Processor Speed	Displays the speed of the processor.
Processor L2 cache	Displays the processor L2 cache size.

Advanced	
CPU Feature	Allows you to enable or disable the CPU features that enhance the performance of the system.
Integrated Devices	Allows you to enable or disable the integrated devices and ports on your system.
IDE/SATA Configuration	Enables or disables a user to define or change any values related to IDE or SATA devices such as hard drives, optical drives, and so on connected to the computer.
Over Clock Configuration	This option enables you to set the system clock mode.
Over Voltage Configuration	This option enables you to configure the voltage of the CPU core, FSB, memory voltage, and chipset voltage.
Overclocked DIMM Configuration	Allows you to enable or disable overclocked DIMM support on your system.

Security	
Setup Password	Allows you to set a Setup password.
System Password	Allows you to set a System password.

Power	
ACPI Suspend Type	Specifies the ACPI suspend type. The default is S3.
AC Recovery	Specifies the behaviour of the system after recovering from a power loss. ○ On — The computer turns on after it recovers from a power failure. ○ Off — The computer remains powered off. ○ Last — The computer returns the power state it was in before the power failure.
Remote Wake Up	This option turns on the computer when a user tries to access the computer through the LAN.
Auto Power On	Enables you to set an alarm to turn on the computer automatically.

Boot	
1st Boot Device through 4th Boot Device	Sets the boot priority among the attached removable devices.
Hard Disk Boot Priority	Sets the hard drive boot priority. The items displayed are dynamically updated according to the hard drives detected.

Exit	
Exit Options	Provides options to **Exit Saving Changes**, **Exit Discarding Changes**, **Load Setup Default**, and **Discard Changes**.

Boot Sequence

This feature allows you to change the boot sequence for the bootable devices installed on your computer.

Option Settings

- **Diskette Drive —** The computer attempts to boot from the floppy drive. If the floppy disk in the drive is not bootable, if no floppy disk is in the drive, or if there is no floppy drive installed in the computer, the computer attempts to boot from the next bootable device in the boot sequence.
- **Hard Drive** — The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer attempts to boot from the next bootable device in the boot sequence.
- **Optical Drive** — The computer attempts to boot from the optical drive. If no optical media is in the drive, or if the media has no operating system, the computer attempts to boot from the next bootable device in the boot sequence.
- **Integrated NIC** — The computer attempts to boot from the integrated network adapter.
- **USB Device —** Insert the memory device into a USB port and restart the computer. When `F12 = Boot Menu` appears in the upper-right corner of the screen, press <F12>. The BIOS detects the device and adds the USB flash option to the boot menu.
- **Disabled —** Disables the particular boot device. The computer attempts to boot from the next bootable device in the boot sequence.

NOTE: To boot to a USB device, the device must be bootable. To ensure that your device is bootable, check the device documentation.

NOTE: An error message is generated only after the computer attempts to boot from every device in the boot sequence and no operating system is found.

Changing Boot Sequence for the Current Boot

You can use this feature, for example, to tell the computer to boot from the CD drive so that you can run the Dell Diagnostics on the *Driver and Utilities* media, but you want the computer to boot from the hard drive when the diagnostic tests are complete. You can also use this feature to restart your computer to a USB device such as a floppy drive, memory key, or CD-RW drive.

NOTE: If you are booting to a USB floppy drive, you must first set the floppy drive to **OFF** in system setup (see System Setup).

1. If you are booting to a USB device, connect the USB device to a USB connector (see the *Back View Features* in your *Setup Guide*).
2. Turn on (or restart) your computer.
3. When the DELL logo appears, press <F12> immediately.

   NOTE: Keyboard failure may result when a key on the keyboard is held down for an extended period of time. To avoid possible keyboard failure, press and release <F12> in even intervals until the **Boot Device Menu** appears.

   If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop, then shut down your computer and try again.

4. At the **Boot Device Menu**, use the up- and down-arrow keys or press the appropriate number on the keyboard to highlight the device that is to be used for the current boot only, and then press <Enter>.

   For example, if you are booting to a USB memory key, highlight **USB Flash Device** and press <Enter>.

NOTE: To boot to a USB device, the device must be bootable. To ensure that your device is bootable, check the device documentation.

Changing Boot Sequence for Future Boots

1. Enter system setup (see Entering System Setup).
2. Use the arrow keys to highlight the **Boot Sequence** menu option and press <Enter> to access the menu.

   NOTE: Write down your current boot sequence in case you want to restore it.

3. Press the up- and down-arrow keys to move through the list of devices.
4. Press the spacebar to enable or disable a device.
5. Press plus (+) or minus (−) to move a selected device up or down the list.

Back to Contents Page

Back to Contents Page

Replacing the System Board

Dell™ XPS™ 625 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance

1. Follow the procedures in Before You Begin.
2. Remove the computer cover (see Replacing the Computer Cover).

WARNING: The processor heat sink can get very hot during normal operation. Be sure that the heat sink has had sufficient time to cool before you touch it.

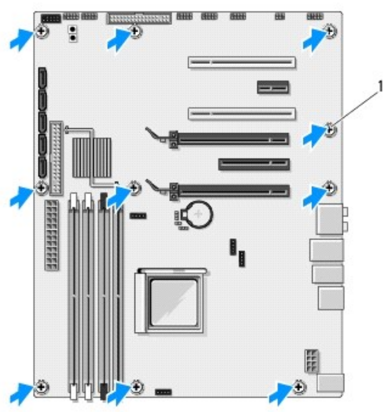
3. Remove the processor heat sink (see Replacing the Processor Heat Sink).
4. Remove all the expansion cards (see Removing PCI and PCI Express Cards).
5. Remove any additional components that may restrict access to the system board.

CAUTION: Carefully note the routing and location of each cable before you disconnect it, so that you are sure to re-route cables correctly. An incorrectly routed or a disconnected cable could lead to computer problems.

6. Disconnect all cables from the system board.

CAUTION: If you are replacing the system board, visually compare the replacement system board to the existing system board to make sure that you have the correct part.

7. Remove the 10 screws that secure the system board to the chassis.



1	screws (10)

8. Carefully, lift the system board out of the computer.
9. Transfer components from the existing system board to the replacement system board, if applicable.
10. Orient the system board by aligning the screw holes on the system board with the screw holes on the chassis.
11. Replace the 10 screws to secure the system board to the chassis.
12. Replace the processor heatsink (see Replacing the Processor Heat Sink).
13. Replace any expansion cards that you removed (see Installing PCI and PCI Express Cards).
14. Replace any additional components that you removed from the system board.

15. Reconnect all cables to the system board.
16. Replace the computer cover (see Replacing the Computer Cover).
17. Connect your computer and devices to electrical outlets, and then turn them on.
18. Flash the system BIOS, as needed.

NOTE: For information on flashing the system BIOS, see the Dell Support website at **support.dell.com**.

Back to Contents Page

Back to Contents Page

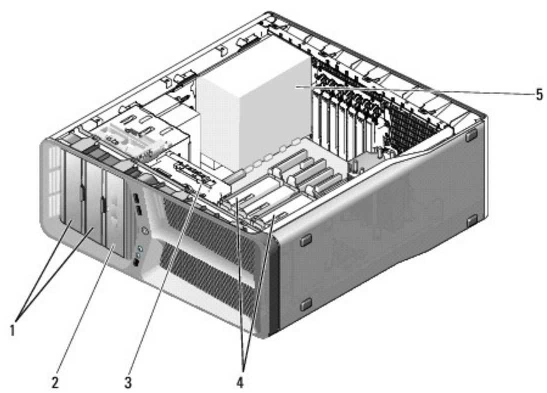
Technical Overview

Dell™ XPS™ 625 Service Manual

- Inside View of Your Computer
- System Board Components
- Master I/O Board Components

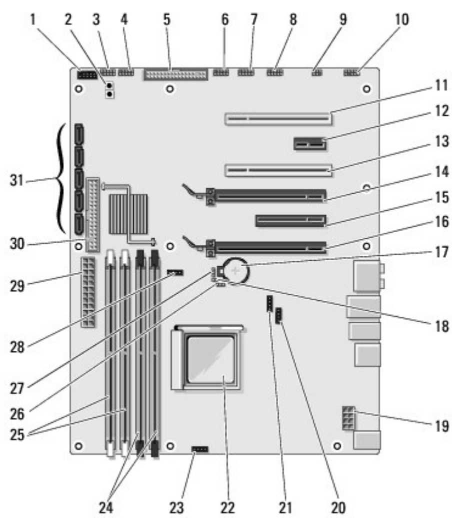
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Inside View of Your Computer



1	CD/DVD drive bays (2)	2	media card reader
3	card fan	4	hard-drive bays (4)
5	power supply		

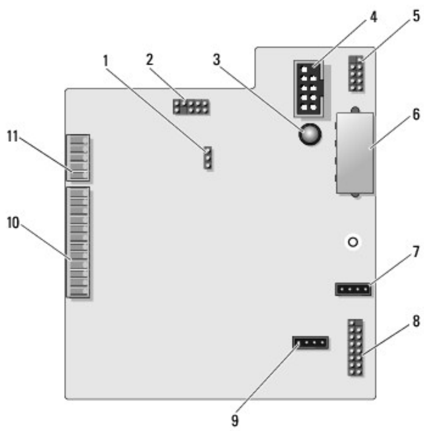
System Board Components



1	FlexBay connector (FLEXBAY)	2	power button (PWR BTN)
3	front LED	4	front panel USB connector (FIO BD)
5	floppy drive connector (FLOPPY)	6	reserved connector (RESERVED)

7	master I/O board USB connector (MASTER IO BD)	8	front panel IEEE connector (FP_1394)
9	internal S/PDIF connector (INTERNAL SPDIF)	10	front panel audio (FP_AUDIO)
11	PCI card slot (PCI SLOT6)	12	PCI-Express x1 card slot (PCI-E X1 SLOT5)
13	PCI card slot (PCI SLOT4)	14	PCI-Express x16 card slot (PCI-E X16 SLOT3)
15	PCI-Express x8 card slot (PCI-E X8 SLOT2)	16	PCI-Express x16 card slot (PCI-E X16 SLOT1)
17	battery socket (BATTERY1)	18	password reset jumper (PSWD1)
19	power connector (12V_ATXP)	20	chipset fan connector (CHIPSET/VRM FAN)
21	reserve fan connector (RESERVE FAN)	22	processor connector (CPU1)
23	processor fan connector (CPU FAN)	24	*black* memory module connectors (DIMM3 and DIMM4)
25	*white* memory module connectors (DIMM1 and DIMM2)	26	ACC controller jumper (J56)
27	CMOS reset jumper (CMOS1)	28	liquid cooling system pump connector (LCS PUMP)
29	main power connector (POWER1)	30	IDE drive connector (IDE)
31	SATA connectors (SATA1-5)		

Master I/O Board Components



1	I/O board reset jumper (RESET_FW)	2	Slab debug header
3	ESA fault LED	4	media card reader connector (USB_Flexbay)
5	internal USB connector (USB_MB)	6	I/O board power connector (PWR_CONN)
7	card fan connector (FAN_CCAG)	8	rear LED sensor (REAR_LED_SENSOR)
9	hard drive fan connector (FAN_HDD)	10	front I/O panel USB, audio, and lights connector (FRONT_AUDIO_USB_LED)
11	front panel LED connector (FRONT_LED)		

Back to Contents Page